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10/729,872	12/05/2003	Markku Lamberg	915-007.062	8487

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EXAMINER

KRASNIC, BERNARD

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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/729,872	Applicant(s) LAMBERG ET AL.	
	Examiner Bernard Krasnic	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12-05-2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12-5-2003 and 2-18-2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because of the legal phraseology "said" that is used and the specific phrase "The invention relates" that is used. It is suggested to remove the legal phraseology "said" in lines 4, 5, 6, and 7 of the abstract. "The invention relates to a method for" is suggested to be -- A method for --.

Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1, 9-10 and 12 are objected to because of the following informalities:
Claims 1, 9 and 12, line 3, claim 10, line 6 respectively: "partially contents" should be -- partial contents --.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. Claims 13, 15 and 16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 13, 15 and 16 are drawn to functional descriptive material NOT claimed as residing on a computer readable medium. MPEP 2106.IV.B.1(a) (Functional Descriptive Material) states:

“Data structures not claimed as embodied in a computer-readable medium are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer.”

“Such claimed data structures do not define any structural or functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure’s functionality to be realized.”

Claims 13, 15 and 16, while defining a “driver”, a “computer program”, and a “computer program product”, does not define a “computer-readable medium” and is thus non-statutory for that reasons. A “driver”, a “computer program”, and a “computer program product” can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on “computer-readable medium” in order to make the claim statutory. For example in claim 15, “A computer program for driving a display device, or a display device driver, operable to cause a processor to perform a method according to claim 1” is suggested to be -- A computer-readable medium encoded with computer-readable instructions for causing the computer to drive a display device, or a display device driver to perform a method according to claim 1 --.

“In contrast, a claimed computer-readable medium encoded with the data structure defines structural and functional interrelationships between the data structure and the computer software and

hardware components which permit the data structure's functionality to be realized, and is thus statutory."
- MPEP 2106.IV.B.1(a)

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claims 1 and 9, line 3: The limitation "contents of said image" lacks clear antecedent basis. "contents of said image" is suggested to be -- contents of an image --.

Claims 2-7 and 10-16 are dependent upon claim 1.

Re Claim 8, lines 7-8: The limitation "within said image" lacks clear antecedent basis. "within said image" is suggested to be -- within an image --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5 and 7-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Bechtel et al (WO 99/33684, this reference was provided by the Applicant's Information Disclosure Statement).

Re Claim 1: Bechtel discloses a method / vehicle vision system for rendering images / scenes on display devices / display systems with improved quality / enhanced image of scene (see page 7, lines 8-9) with the steps of analysing / measures of overall image brightness using a histogram at least partially contents of said image (see Fig. 2, page 1, lines 6-14, page 2, lines 16-21 and 27-32, page 3, lines 1-3, page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 7, lines 8-9, page 8, lines 10-16, abstract, lines 14-26), determining / setting a tone rendering curve / function which controls the pixel luminance mapping based on said analysed image content / measures of overall image brightness using a histogram (see Figs. 2 and 5, page 25, lines 18-23, page 34, lines 1-16), and adjusting / mapping luminance values of pixels within said image according to said determined tone rendering curve (see Figs. 2 and 5, page 25, lines 18-23, page 34, lines 1-16).

Re Claim 2: Bechtel further discloses luminance values of pixels / measures of overall image brightness using a histogram are analysed for determining said tone rendering curve / function which controls the pixel luminance mapping (see Figs. 2 and 5, page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 25, lines 18-23, page 34, lines 1-16, abstract, lines 14-26).

Re Claim 3: Bechtel further discloses an image histogram / brightness histogram is analysed for determining said tone rendering curve / function which controls the pixel luminance mapping (see Figs. 2 and 5, page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 25, lines 18-23, page 34, lines 1-16, abstract, lines 14-26).

Re Claim 4: Bechtel further discloses at least two different tone rendering curves / different function curves are stored / memory, and wherein said determined tone rendering curve is taken from said storage (see Figs. 2 and 5, page 25, lines 18-23, page 34, lines 1-16, abstract, lines 14-26).

Re Claim 5: Bechtel further discloses said tone rendering curve / function which controls the pixel luminance mapping is customized according to properties of said display device (see Fig. 5, page 25, lines 30-34, page 26, lines 1-7, the function which controls the pixel luminance mapping is customized to convert the 11-bit luminance input to an 8-bit luminance output display value because the display could only support 8-bit output).

Re Claim 7: Bechtel further discloses ambient light information / ambient light signal is acquired, and wherein said tone rendering curve / luminance mapping control is also determined based on said ambient light information (see Fig. 2, page 4, lines 30-31, page 5, lines 1-8, abstract, lines 14-26, page 19, lines 22-32, claim 17, page 6, lines 4-

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5, the different components, image brightness detector, display luminance mapping control and the ambient light sensor basically all affect the control logic which acts as a processor and all these components are depicted as one entire preferred embodiment and therefore all these components are inter-related in function as is seen in Fig. 2).

Re Claim 8: Bechtel discloses a method / vehicle vision system for rendering images / scenes on display devices / display systems with improved quality / enhanced image of scene (see Fig. 2, page 7, lines 8-9, page 1, lines 6-14, page 2, lines 16-21 and 27-32, page 3, lines 1-3, page 4, lines 30-31, page 5, lines 1-8 and 14-16, page 7, lines 8-9, page 8, lines 10-16, abstract, lines 14-26) with the steps of acquiring ambient light information / ambient light signal (see Fig. 2, page 4, lines 30-31, page 5, lines 1-8, abstract, lines 14-26, page 19, lines 22-32, claim 17, page 6, lines 4-5, the different components, image brightness detector, display luminance mapping control and the ambient light sensor basically all affect the control logic which acts as a processor and all these components are depicted as one entire preferred embodiment and therefore all these components are inter-related in function as is seen in Fig. 2), analysing said ambient light information (see page 19, lines 22-32), determining a tone rendering curve / function which controls the pixel luminance mapping based on said ambient light information (see Fig. 2, page 4, lines 30-31, page 5, lines 1-8, abstract, lines 14-26, page 19, lines 22-32, claim 17), and adjusting luminance values of pixels within said image according to said determined tone rendering curve (see Figs. 2 and 5, page 25, lines 18-23, page 34, lines 1-16, abstract, lines 14-26).

As to claim 9, the discussions are addressed with respect to claims 1 and 7.

As to claim 10, the claim is the corresponding display device claim to claim 1 respectively. The discussions are addressed with regard to claim 1. In regards to the further limitation "a screen for showing said image", Bechtel further discloses a screen for showing said image to viewers (see Fig. 2, page 7, lines 8-9, abstract, lines 14-26).

The limitations as recited in claim 10, "analyzing means" in line 5, "tone rendering curve determination means" in line 7, and "image adjusting means" in line 10 invoke 35 U.S.C. 112, sixth paragraph.

As to claim 11, the claim is the corresponding display device claim to claim 8 respectively. The discussions are addressed with regard to claim 8. In regards to the further limitation "a screen for showing said image", Bechtel further discloses a screen for showing said image to viewers (see Fig. 2, page 7, lines 8-9, abstract, lines 14-26).

The limitations as recited in claim 11, "ambient light acquisition means" in line 5, "tone rendering curve determination means" in line 7, and "image adjusting means" in line 10 invoke 35 U.S.C. 112, sixth paragraph.

As to claim 12, the claim is the corresponding display device claim to claim 9 respectively. The discussions are addressed with regard to claim 9. In regards to the

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further limitation "a screen for showing said image", Bechtel further discloses a screen for showing said image to viewers (see Fig. 2, page 7, lines 8-9, abstract, lines 14-26).

The limitations as recited in claim 12, "analyzing means" in line 5, "ambient light acquisition means" in line 7, "tone rendering curve determination means" in line 9, and "image adjusting means" in line 13 invoke 35 U.S.C. 112, sixth paragraph.

As to claim 13, the claim is the corresponding display device driver claim to claim 1 respectively. The discussions are addressed with regard to claim 1.

The limitations as recited in claim 13, "analyzing means" in line 3, "tone rendering curve determination means" in line 4, and "image adjusting means" in line 7 invoke 35 U.S.C. 112, sixth paragraph.

As to claim 14, the claim is the corresponding system claim to claim 8 respectively. The discussions are addressed with regard to claim 8. In regards to the further limitation "a display device", Bechtel further discloses a display device for presenting to viewers (see Fig. 2, page 7, lines 8-9, abstract, lines 14-26).

As to claim 15 [as best understood by the Examiner], the claim is the corresponding computer program claim to claim 1 respectively.

As to claim 16 [as best understood by the Examiner], the claim is the corresponding computer program product claim to claim 15 respectively.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bechtel et al in view of Laihanen ("Graphic Arts in Finland", 1995, this reference was provided by the Applicant's Information Disclosure Statement). The teachings of Bechtel are discussed above.

However, as recited in claim 6, Bechtel fails to disclose or fairly suggest said tone rendering curve is applied to said luminance values of pixels within an HSV or Lsa colour space.

Laihanen discloses said tone rendering curve is applied to said luminance values of pixels within an HSV or Lsa colour space (see page 6, Fig. 6, page 3, abstract, paragraph 3 "A new Lsa ...", pages 6-7, Section – Colour Image Manipulation).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bechtel's method by using Liahanen's teachings by including the ability to apply the tone rendering curve to the luminance values within the HSV or Lsa color space in order to efficiently adjust grey balance, skin tones and saturation and because it is an optimum tool when compared to adjusting in RGB color

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space (see Laihanen, page 3, abstract, paragraph 3 "A new Lsa ...", page 7, paragraph "None, of the existing colour models ...").

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Balasubramanian discloses color marking equipment, Bechtel et al discloses a vehicle vision system; Deguchi et al discloses an image processing device and method, image transmission/receptor system and method, and providing medium; Yoon et al discloses an apparatus for compensating for image display characteristics; Balasubramanian et al discloses a color-balanced TRC correction to compensate for illuminant changes in printer characterization; Farnung et al discloses systems and methods to determine a contrast and brightness adjusted system tone reproduction curve; Uroz et al discloses a color cast reduction system and method.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
April 27, 2007


JINGGE WU
SUPERVISORY PATENT EXAMINER